CLAIMS

1.   A method for evaluating the condition of a patient after stroke comprising the steps of:

delivering breathable gas at a pressure above atmospheric to a patient after stroke;

measuring the airflow of said patient; and

determining a stroke indicator from said airflow, said stroke indicator representing information about the patient's condition.

2.   The method of claim 1 wherein said determining step includes analyzing said airflow to determine an occurrence of central apnea and said stroke indicator is calculated as a function of said occurrence of central apnea.

3.   The method of claim 2 wherein said determining step includes analyzing said airflow to determine an occurrence of obstructive apnea and said stroke indicator is calculated as a function of said occurrence of obstructive apnea.

4.   The method of claim 3 wherein said stroke indicator is a function of a ratio of said occurrence of central apnea and said occurrence of said obstructive apnea.

5.   The method of claim 4 further comprising recording said stroke indicator over time.

6.   The method of claim 5 further comprising the step of analyzing said stroke indicator over time to determine a change in said stroke indicator.

7.   The method of claim 1 wherein said determining step includes analyzing said airflow to determine a first percentile pressure from pressure delivered to a patient in a current session and comparing said first percentile pressure with a second percentile pressure from pressure delivered to said patient in a prior session.

8.   The method of claim 7 wherein said first and second percentile pressures are 95th percentile pressures.

9.   The method of claim 6 or 8 wherein said stroke indicator indicates a degree of neuro-recovery of the patient.

10.   The method of claim 4 wherein said stroke indicator indicates a type of stroke that the patient has suffered.

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11.   The method of claim 1 further comprising of the step of recording said stroke indicator in a database of stroke indicators for multiple patients.

12.   The method of claim 1 further comprising the step of identifying subsequent treatment based upon said stroke indicator.

13.   The method of claim 12 wherein said treatment is a form of CPAP therapy.

14.   The method of claim 12 wherein said treatment is a change in drug therapy.

15.   The method of claim 1 further comprising the step of evaluating changes in said stroke indicator to assess the efficacy of an administered drug.

16.   The method of claim 15 wherein said step of evaluating said stroke indicator includes storing said stroke indicator in a database of patient information.

17.   The method of claim 16 wherein said stroke indicator is a function of a number of occurrences of central apnea.

18.   The method of claim 17 wherein said stroke indicator is a function of a number of occurrences of obstructive apnea.

19.   The method of claim 18 wherein said stroke indicator is a function of a ratio of a number of occurrences of central apnea and a number of occurrences of obstructive apnea.

20.   An apparatus for evaluating the condition of a patient after stroke comprising:

       a mask;

       a blower to supply breathable gas at a pressure above atmospheric to said mask;

       a flow sensor to generate a flow signal indicative of the patient's airflow; and

       a computer to process said flow signal and control said blower wherein said computer is programmed with instructions for:

       controlling said blower to deliver breathable gas at a pressure above atmospheric to a patient; and

       calculating a stroke indicator from said flow signal, said stroke indicator representing information about the patient's condition.

21.   The apparatus of claim 20 wherein said instructions for calculating said stroke indicator control an analysis of said flow signal to determine an occurrence of central apnea and said instructions calculate said stroke indicator as a function of said occurrence of central apnea.

22.   The apparatus of claim 21 wherein said instructions for calculating said stroke indicator control an analysis of said airflow to determine an occurrence of obstructive apnea and said instructions calculate said stroke indicator as a function of said occurrence of obstructive apnea.

23.   The apparatus of claim 22 wherein said instructions for calculating said stroke indicator control a calculation of said stroke indicator as a function of a ratio of said occurrence of central apnea and said occurrence of said obstructive apnea.

24.   The apparatus of claim 23 wherein said computer is further programmed with instructions for recording said stroke indicator over time.

25.   The apparatus of claim 24 wherein said computer is further programmed with instructions for controlling an analysis of said stroke indicator over time to determine a change in said stroke indicator.

26.   The apparatus of claim 20 wherein said instructions for calculating said stroke indicator control a determination of a first percentile pressure from pressure delivered to a patient in a current session and a comparison of said first percentile pressure with a second percentile pressure determined from pressure delivered to said patient in a prior session.

27.   The apparatus of claim 26 wherein said first and second percentile pressures are 95th percentile pressures.

28.   The apparatus of claim 20 with further instructions for recording said stroke indicator in a database of stroke indicators for multiple patients.

29.   The apparatus of claim 20 with further instructions for identifying subsequent treatment based upon said stroke indicator.

30.   The apparatus of claim 29 wherein said treatment is a form of CPAP therapy.

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31.   The apparatus of claim 29 wherein said treatment is a change in drug therapy.

32.   The apparatus of claim 20 with further instructions for evaluating changes in said stroke indicator to assess the efficacy of an administered drug.

33.   The apparatus of claim 32 wherein said instructions for evaluating said stroke indicator store said stroke indicator in a database of patient information.

34.   The apparatus of claim 33 wherein said stroke indicator is a function of a number of occurrences of central apnea.

35.   The apparatus of claim 34 wherein said stroke indicator is a function of a number of occurrences of obstructive apnea.

36.   The apparatus of claim 35 wherein said stroke indicator is a function of a ratio of a number of occurrences of central apnea and a number of occurrences of obstructive apnea.

37.   An apparatus for evaluating the condition of a patient after stroke comprising:

        a means for supplying breathable gas at a pressure above atmospheric to a patient;

        a flow sensor means to generate a flow signal indicative of the patient's airflow; and

        a computer means to process said flow signal and control said blower wherein said computer is programmed with instructions for:

        controlling said blower to deliver breathable gas at a pressure above atmospheric to a patient; and

        calculating a stroke indicator from said flow signal, said stroke indicator representing information about the patient's condition.

38.   The apparatus of claim 37 wherein said instructions for calculating said stroke indicator control an analysis of said flow signal to determine an occurrence of central apnea and said instructions calculate said stroke indicator as a function of said occurrence of central apnea.

39.   The apparatus of claim 38 wherein said instructions for calculating said stroke indicator control an analysis of said airflow to determine an occurrence of obstructive apnea and said instructions calculate said stroke indicator as a function of said occurrence of obstructive apnea.

40. The apparatus of claim 39 wherein said instructions for calculating said stroke indicator control a calculation of said stroke indicator as a function of a ratio of said occurrence of central apnea and said occurrence of said obstructive apnea.

41. The apparatus of claim 40 wherein said computer is further programmed with instructions for recording said stroke indicator over time.

42. The apparatus of claim 41 wherein said computer is further programmed with instructions for controlling an analysis of said stroke indicator over time to determine a change in said stroke indicator.

43. The apparatus of claim 37 wherein said instructions for calculating said stroke indicator control a determination of a first percentile pressure from pressure delivered to a patient in a current session and a comparison of said first percentile pressure with a second percentile pressure determined from pressure delivered to said patient in a prior session.

44. The apparatus of claim 43 wherein said first and second percentile pressures are 95th percentile pressures.

45. The apparatus of claim 37 with further instructions for recording said stroke indicator in a database of stroke indicators for multiple patients

46. The apparatus of claim 37 with further instructions for identifying subsequent treatment based upon said stroke indicator.

47. The apparatus of claim 46 wherein said treatment is a form of CPAP therapy.

48. The apparatus of claim 46 wherein said treatment is a change in drug therapy.

49. The apparatus of claim 37 with further instructions for evaluating changes in said stroke indicator to assess the efficacy of an administered drug.

50. The apparatus of claim 49 wherein said instructions for evaluating said stroke indicator store said stroke indicator in a database of patient information.

51. The apparatus of claim 50 wherein said stroke indicator is a function of a number of occurrences of central apnea.

52.   The apparatus of claim 51 wherein said stroke indicator is a function of a number of occurrences of obstructive apnea.

53.   The apparatus of claim 52 wherein said stroke indicator is a function of a ratio of a number of occurrences of central apnea and a number of occurrences of obstructive apnea.

54.   A medium for storing instructions for use by an electronic processor to control the evaluation of the condition of a patient after stroke, said instructions for controlling the execution of the step of:

    calculating a stroke indicator from a measure of airflow of a patient, said airflow measured during the delivery of a pressure of breathable gas above atmospheric, said stroke indicator representing information about the patient's condition.

55.   The medium of claim 54 wherein said stroke indicator is calculated as a function of a determined occurrence of central apnea.

56.   The medium of claim 55 wherein said stroke indicator is calculated as a function of a determined occurrence of obstructive apnea.

57.   The medium of claim 56 wherein said stroke indicator is a function of a ratio of said occurrence of central apnea and said occurrence of said obstructive apnea.

58.   The medium of claim 57 further comprising the step of recording said stroke indicator over time.

59.   The medium of claim 58 further comprising the step of analyzing said stroke indicator over time to determine a change in said stroke indicator.

60.   The medium of claim 54 wherein said determining step includes analyzing said airflow to determine a first percentile pressure from pressure delivered to a patient in a current session and comparing said first percentile pressure with a second percentile pressure from pressure delivered to said patient in a prior session.

61.   The medium of claim 60 wherein said first and second percentile pressures are 95th percentile pressures.

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62.   The medium of claim 59 or 61 wherein said stroke indicator indicates a degree of neuro-recovery of the patient.

63.   The medium of claim 57 wherein said stroke indicator indicates a type of stroke that the patient has suffered.

64.   The medium of claim 54 with further instructions for recording said stroke indicator in a database of stroke indicators for multiple patients.

65.   The medium of claim 54 with further instructions for identifying subsequent treatment based upon said stroke indicator.

66.   The medium of claim 65 wherein said treatment is a form of CPAP therapy.

67.   The medium of claim 65 wherein said treatment is a change in drug therapy.

68.   The medium of claim 54 with further instructions for evaluating changes in said stroke indicator to assess the efficacy of an administered drug.

69.   The medium of claim 66 wherein said instructions for evaluating said stroke indicator store said stroke indicator in a database of patient information.

70.   The medium of claim 67 wherein said stroke indicator is a function of a number of occurrences of central apnea.

71.   The medium of claim 70 wherein said stroke indicator is a function of a number of occurrences of obstructive apnea.

72.   The medium of claim 71 wherein said stroke indicator is a function of a ratio of a number of occurrences of central apnea and a number of occurrences of obstructive apnea.

73.   A method for evaluating the condition of a patient after stroke comprising the steps of:
        during a first period delivering breathable gas at a pressure above atmospheric to the patient;

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determining a first index as a function of the total number of hypopneas and apneas experienced by the patient during said first period;

comparing said first index to a threshold value and if said first index exceeds said threshold value then selecting between forms of CPAP treatment.

74.   The method of claim 73 further comprising the step of querying for sleep history information about a patient, wherein said delivering breathable gas is based upon information from said querying.

75.   The method of claim 73 further comprising the step of determining a second index as a ratio of the number of central apneas and the number of obstructive apneas experienced by said patient during said first period, wherein said step of selecting between forms of CPAP treatment is a function of said second index.

76.   The method of claim 75 wherein said threshold value is about 20.

77.   The method of claim 76 wherein said forms of CPAP include CPAP and bi-level CPAP.

78.   The method of claim 77 wherein said CPAP is selected when said second index indicates a low occurrence of central apnea.

79.   The method of claim 73 further comprising the step of identifying a reimbursement code associated with treatment provided to the patient.

80.   An apparatus for evaluating the condition of a patient after stroke comprising:

a mask;

a blower to supply breathable gas at a pressure above atmospheric to said mask;

a flow sensor to generate a flow signal indicative of the patient's airflow; and

a computer to process said flow signal and control said blower wherein said computer is programmed with instructions for:

during a first period delivering breathable gas at a pressure above atmospheric to the patient;

determining a first index as a function of the total number of hypopneas and apneas experienced by the patient during said first period;

comparing said first index to a threshold value and if said first index exceeds said threshold value then selecting between forms of CPAP treatment.

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81.   The apparatus of claim 80 further comprising the step of querying for sleep history information about a patient, wherein said delivering breathable gas is based upon information from said querying.

82.   The apparatus of claim 80 further comprising the step of determining a second index as a ratio of the number of central apneas and the number of obstructive apneas experienced by said patient during said first period, wherein said step of selecting between forms of CPAP treatment is a function of said second index.

83.   The apparatus of claim 82 wherein said threshold value is about 20.

84.   The apparatus of claim 83 wherein said forms of CPAP comprise CPAP and bi-level CPAP.

85.   The apparatus of claim 84 wherein said CPAP is selected when said second index indicates a low occurrence of central apnea.

86.   The apparatus of claim 80 with further instructions for identifying a reimbursement code associated with treatment provided to the patient.

87.   An apparatus for evaluating the condition of a patient after stroke comprising:

a means for supplying breathable gas at a pressure above atmospheric to a patient;

a flow sensor means to generate a flow signal indicative of the patient's airflow; and

a computer means to process said flow signal and control said blower wherein said computer is programmed with instructions for:

during a first period delivering breathable gas at a pressure above atmospheric to the patient;

determining a first index as a function of the total number of hypopneas and apneas experienced by the patient during said first period;

comparing said first index to a threshold value and if said first index exceeds said threshold value then selecting between forms of CPAP treatment.

88.   The apparatus of claim 87 further comprising the step of querying for sleep history information about a patient, wherein said delivering breathable gas is based upon information from said querying.

89.   The apparatus of claim 87 further comprising the step of determining a second index as a ratio of the number of central apneas and the number of obstructive apneas experienced by said patient during said first period, wherein said step of selecting between forms of CPAP treatment is a function of said second index.

90.   The apparatus of claim 89 wherein said threshold value is about 20.

91.   The apparatus of claim 90 wherein said forms of CPAP comprise CPAP and bi-level CPAP.

92.   The apparatus of claim 91 wherein said CPAP is selected when said second index indicates a low occurrence of central apnea.

93.   The apparatus of claim 87 with further instructions for identifying a reimbursement code associated with treatment provided to the patient.

94.   A medium for storing instructions for use by an electronic processor for controlling the evaluation of the condition of a patient after stroke, said instructions for controlling the execution of the steps of:

        determining a first index as a function of the total number of hypopneas and apneas experienced by a patient from a first period of delivered breathable gas at a pressure above atmospheric;

        comparing said first index to a threshold value and if said first index exceeds said threshold value then selecting between forms of CPAP treatment.

95.   The medium of claim 94 further comprising the step of querying for sleep history information about a patient, wherein said delivering breathable gas is based upon information from said querying.

96.   The medium of claim 94 further comprising the step of determining a second index as a ratio of the number of central apneas and the number of obstructive apneas experienced by

said patient during said first period, wherein said step of selecting between forms of CPAP treatment is a function of said second index.

97.   The medium of claim 96 wherein said threshold value is about 20.

98.   The medium of claim 97 wherein said forms of CPAP comprise CPAP and bi-level CPAP.

99.   The medium of claim 98 wherein said CPAP is selected when said second index indicates a low occurrence of central apnea.

100.   The medium of claim 94 with further instructions for identifying a reimbursement code associated with treatment provided to the patient.

101.   A method of deriving a stroke indicator of a patient after stroke comprising the steps of:
       determining the number of central and obstructive apneas which the patient has during a first time period;
       calculating a stroke indicator index from a comparison of the number of central and obstructive apneas which the patient has during the first time period, said stroke indicator representing information about the patient's rehabilitation from stroke.

102.   Apparatus for deriving a stroke indicator of a patient after stroke comprising:
       an airflow sensor means for measuring respiratory airflow of a patient;
       an effort sensor means for measuring the respiratory effort of the patient;
       a computer means programmed (a) to monitor the airflow and effort sensor means, (b) to determine a number of central and obstructive apneas which the patient has during a first time period, and (c) to calculate a stroke indicator index from a comparison of the number of central and obstructive apneas which the patient has during the first time period, said stroke indicator index representing information about the patient's recovery from stroke.

103.   Apparatus for deriving a stroke indicator of a patient after stroke comprising:
       a flow sensor to generate a respiratory signal of a patient;
       a respiratory band to generate an effort signal of the patient;
       a computer programmed to determine a number of central and obstructive apneas which the patient has during a first time period from data from said respiratory signal and said effort signal and to calculate a stroke indicator index from a comparison of the number of

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central and obstructive apneas which the patient has during the first time period, said stroke indicator index representing information about the patient's recovery from stroke.

103. A medium for storing instructions for use by an electronic processor for controlling the derivation of a stroke indicator, said instructions for controlling the execution of the steps of:

calculating a stroke indicator index from a comparison of a number of central and obstructive apneas determined from data representing respiratory airflow and patient effort from a first time period, said stroke indicator index representing information about the patient's recovery from stroke.